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(57)

ABSTRACT

A portable surface cleaning apparatus including a base module for movement along a surface, an upright handle pivotally attached to the base module, a liquid dispensing system including a flexible bladder defining a fluid supply chamber for holding a supply of cleaning fluid, a fluid recovery system including a tank on the base module having a fluid recovery chamber for holding recovered fluid and housing the flexible bladder, and a fluid passageway between the fluid supply chamber and the recovery chamber,

whereby the recovery chamber is in fluid communication with the fluid supply chamber and the pressure in the flexible bladder is equalized with the pressure in the tank as the cleaning fluid is dispensed from the supply chamber and the dirty liquid is collected in the recovery chamber. In a further embodiment the tank has an outlet opening in a bottom portion thereof and a drain plug is removably mounted in the outlet opening. In another embodiment a lid mounted on the tank defines an expansion chamber having an inlet opening, an outlet passage, and first and second diverters against which the working air flow reverses direction twice between the inlet opening of the expansion chamber and the tank. In another embodiment the working air conduit includes a manual actuator knob having an over-center linkage mechanism connected to a conversion valve for movement between first and second positions and thereby selectively moving the conversion valve between open and closed positions, whereby fluid communication between the tank and the suction nozzle is selectively opened and closed. In a further embodiment, a flow indicator is mounted to the base module and has a visibility window observable to a user, and the flow indicator is disposed in the fluid supply conduit and is responsive to the flow of fluid through the fluid supply conduit to visually indicate the flow of fluid through the supply conduit to the user. Another embodiment includes a pump primer connected to the pump and having a housing defining a priming chamber with a valved opening connected to the vacuum source, an inlet opening connected to the fluid supply chamber, and an outlet opening connected to an inlet for the pump. A further embodiment includes a first mechanical connector extending between the motor drive shaft and the pump drive shaft, whereby the motor drives both the agitation brush and the pump. In a further embodiment, the base module includes an upper housing portion and a lower housing portion and an upright handle is pivotally mounted to the rear portion of the base module through at least one bearing for rotatable reception in the housing. In another embodiment, an elevator assembly is reciprocally mounted to the base module and movable in response to movement of the upright handle from an operative position to the upright position for upwardly pivoting a pivot arm mounting an agitation brush.

15 Claims, 17 Drawing Sheets